MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT

Permitting and Compliance Division
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NorthWestern Corporation
Telstad Field Station 033-1 through 6
NE ¼ of the NE ¼ of Section 34, Township 32 North, Range 1 East
Toole County, Montana

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Portable analyzer
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		Annual and semiannual
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Applicable Air Quality Programs			
ARM Subchapter 7 Preconstruction Permitting	X		Permit #2782-03
New Source Performance Standards (NSPS)		X	
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	Except for 40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)		X	
Major New Source Review (NSR)		X	
Prevention of Significant Deterioration (PSD)	X		NO_x emissions >250 tpy
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
State Implementation Plan (SIP)	X		General SIP

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SECTION I. - GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit for this facility. The document is intended for reference during review of the proposed permit by the EPA and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by NorthWestern Corporation (NorthWestern), as Montana Power Company (MPC), on July 11, 1995, information provided in the modification application submitted to the Department of Environmental Quality (Department) on August 18, 2001, and information in the administrative amendment applications submitted on February 11, 2003 and June 12, 2003.

B. Facility Location

NorthWestern owns and operates a gas processing plant and associated equipment located in the NE¼, of the NE¼, of Section 34, Township 32 North, Route 1 East, in Toole County, Montana.

C. Facility Background Information

EU1&2	(2) Ingersoll Rand XVG compressor engines were installed in 1948
EU3	(1) Clark RA-8 compressor engine was installed in 1967
EU4&5	(2) Ajax DPC-600 compressor engines were installed in 1977
EU6	(1) Ajax DPC-160 compressor engine, was installed in July of 1979
EU7	(1) 1512 Mbtu/hr General Building reboiler, (2) 137 Mbtu/hr heaters, (8) 110 Mbtu/hr heaters, (2) 75 Mbtu heaters, (2) 50 Mbtu/hr heaters, and (1) 30 Mbtu/hr heater
EU8	(1) 400 Mbtu/hr Olman Heath reboiler
EU9	(1) Solar Saturn Turbine Compressor (1100 hp)
EU10	(1) Solar Saturn Turbine Compressor (1100 hp)
EU11	(1) 750 Mbtu/hr heating boiler
EU13	(2) Waukesha Natural Gas Emergency Backup Generators
EU14	In-plant vehicle traffic

Preconstruction Permit Background

The Ingersoll Rand XVG compressor engines were installed at the Telstad compressor station in 1948, the Clark RA-8 compressor engine was installed in 1967, the Ajax DPC-600 compressor engines were installed in 1977, and the Ajax DPC-160 compressor engine, was installed in July 1979.

On September 23, 1993, MPC was issued **Permit #2782-00** for the operation of their natural gas processing plant and associated equipment. The 160 hp Ajax DPC-160 compressor engine was installed in July 1979. Therefore, a Best Available Control Technology (BACT) analysis was required for the 160 hp Ajax DPC-160 compressor engine. Based on the BACT analysis, the Department determined BACT to be the proper operation of the 160 hp Ajax DPC – 160 hp compressor engine to maintain compliance with the NO_x, CO, and VOC emission limitations. The heaters and the reboilers at the Telstad Field are considered minor sources. Based on previous determinations, BACT for these sources is no control.

On May 16, 1994, **Permit #2782-01** was issued to MPC. This alteration was requested because the Department revised the emission limitation units from g/bhp-hr to lb/hr. The revision was due to varying parameters such as engine revolutions per minute (RPM), operating load (bhp), ambient air temperature, gas temperature, site, elevation, fuel gas quality, air/fuel ratio (AFR), field gas conditions, etc. Rather than limit the engines to a g/bhp-hr limit, an hourly emission limit was allowed for operational flexibility.

In addition, MPC requested an alteration to their initial permit for the 160 hp Ajax DPC-160. MPC requested to change the limits from 3.0 g NO_X/bhp-hr and 2.5 g CO/bhp-hr to 11.0 g CO or NO_X/bhp-hr basis. A test conducted October 12, 1993, showed that MPC could not meet the initial NO_X and CO limitations. The Department agreed with MPC's request to increase the allowable emissions. The initial limitation was based on erroneous manufacturer data.

Also, as part of the permit alteration for Permit #2782-01, the NO_X emission limitations were identified as NO_2, and the heaters were calculated at the next 1 MMBtu/hr increment. Permit #2782-01 replaced Permit #2782-00.

On September 30, 1998, MPC requested a permit modification to Permit #2782-01. The request involved removing the testing requirement for the 160 hp Ajax DPC-160 compressor engine (unit #6). Based on the emissions and past testing results from this source, the Department agrees that an every 4-year testing schedule is not necessary for this engine at this time; however, the limit will remain and testing may be required in the future. This permit modification is consistent with other compressor stations and the Department's testing guidance. Rule references were also updated. Permit **#2782-02** replaced Permit #2782-01.

On October 4, 2001, MPC was issued **Permit #2782-03** to facilitate the installation and operation of two 1100 hp Solar Saturn turbine compressors and one 750 Mbtu/hr heating boiler. In addition, MPC removed the 3000 Mbtu/hr Sweetening Plant Reboiler, the 250 Mbtu/hr Reclaimer Reboiler, the Sweetening Plant Flare, and the Sweetening Plant Dehydrator. The permit includes a restriction on the combined hours of operation for the two Solar Saturn turbines to keep the facility below the Prevention of Significant Deterioration (PSD) significance level for NO_X

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications. The checklist was completed on February 20, 2003.

Operating Permit Background

Title V Permit Application #OP2782-00 was submitted to the Department on July 11, 1995, and Permit **#OP2782-00** was issued effective on January 3, 1999.

MPC was issued Permit **#OP2782-01** on September 18, 2002. The modification added two 1100 hp Solar Saturn turbine compressors and one 750 Mbtu/hr heating boiler to the permit. In addition, the 3000 Mbtu/hr Sweetening Plant Reboiler, the 250 Mbtu/hr Reclaimer Reboiler, the Sweetening Plant Flare, and the Sweetening Plant Dehydrator were removed from the Permit. The permit included a restriction on the combined hours of operation for the two Solar Saturn turbines to keep facility emissions below PSD significance level for NO_X. Permit #OP2782-01 replaced Permit #OP2782-00 on October 19, 2002.

On February 11, 2003, the Department received a request from NorthWestern to administratively amend Permit #OP2782-01. NorthWestern requested the Department to update the permit to reflect a change of the responsible official. In addition, the current permit action updates the permit to reflect a name change from MPC to NorthWestern, as requested by MPC on October 15, 2002. **Permit #OP2782-02** replaced Permit #OP2782-01.

D. Current Permit Action

On June 12, 2003, the Department received a request from NorthWestern to administratively amend Permit #OP2782-02. NorthWestern requested the Department to update the permit to reflect a change of the responsible official. **Permit #OP2782-03** replaces Permit #OP2782-02.

E. Compliance Designation

The Telstad Field station was inspected by the Department on several occasions. Compliance inspections were performed on October 21, 1997; June 29, 2000; September 14, 2000; and January 7, 2002. During the inspections, the facility was in compliance with permit limitations and requirements.

SECTION II. - SUMMARY OF EMISSION UNITS

A. Facility Process Description

The purpose of the NorthWestern facility is to boost the field gas to the natural gas transmission system. This initial compression of the gas is accomplished with the compressor engines and turbines. The heaters provide the heat to the various station facilities. Another purpose of the complex is to "dry" the gas as it is being processed. The gas contains some moisture, which must be removed from the system prior to being sent into the transmission system. This is accomplished with a dehydrator, also commonly called a reboiler or glycol unit. The gas is treated with a glycol solution, which absorbs the water in the gas stream. The glycol solution is then heated to about 300º F to drive off the water and return the glycol. The heat necessary for this activity is generated by burning natural gas in the dehydrator reboilers. These units range in heat input from 250 - 3000 MBtu/hr.

B. Emission Units and Pollution Control Device Identification

Emissions Unit ID	Description	Pollution Control Device/Practice
EU1	300 hp Ingersoll Rand XVG Compressor Engine	none
EU2	300 hp Ingersoll Rand XVG Compressor Engine	none
EU3	Clark RA-8, 800 hp Compressor Engine	none
EU4	AJAX DPC-600, 600 hp Compressor Engine	none
EU5	AJAX DPC-600, 600 hp Compressor Engine	none
EU6	AJAX DPC-160, 160 hp Compressor Engine	none
EU7	Natural Gas Building Heaters, < 4MMBtu/hr	none
EU8	Olman Heath Reboiler, 400 MBtu/hr	none
EU9	Solar Saturn, 1100 hp Turbine Compressor	none
EU10	Solar Saturn, 1100 hp Turbine Compressor	none
EU11	750 Mbtu/hr heating boiler	none
EU13	(2) Waukesha Natural Gas Emergency Backup Generators	none
EU14	In-plant Vehicle Traffic	none

C. Categorically Insignificant Sources/Activities

The Administrative Rules of Montana (ARM) 17.8.1201 (22)(a) defines an insignificant emissions unit as one that emits less than 5 tons per year of any regulated pollutant, has the potential to emit less than 500 pounds per year of lead or any hazardous air pollutant, and is not regulated by an applicable requirement other than a generally applicable requirement. The insignificant emitting unit located at the facility is Process Valves.

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

The following limits and conditions are based from Permit #2782-03, which was issued on 10/04/01.

1. Emissions from the two 600 hp Ajax DPC-600 compressor engine shall not exceed the following:

   NO_X 20.5 lb/hr
   CO 1.46 lb/hr
   VOC 0.66 lb/hr

2. Emissions from the one 160 hp Ajax DPC-160 compressor engine shall not exceed the following:

   NO_X 3.88 lb/hr
   CO 3.88 lb/hr
   VOC 0.28 lb/hr

3. Emissions from each of the two 1100 hp Solar Saturn compressor turbines shall not exceed the following:

   NO_X 7.11 lb/hr
   CO 11.57 lb/hr
   VOC 1.66 lb/hr

4. The total combined hours of operation of the two 1100 hp Solar Saturn compressor turbines shall be limited to 10,400 hours during any rolling 12-month period.

5. NorthWestern shall operate the Telstad Field in compliance with ARM 17.8.304 which states that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any sources or stacks installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over 6 consecutive minutes.

6. NorthWestern shall operate the Telstad Field in compliance with ARM 17.8.304, which states that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any sources or stacks installed or altered after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

7. NorthWestern shall operate the Telstad Field in compliance with ARM 17.8.308, which states that no person may cause or authorize emissions to be discharged into the atmosphere from access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit opacity of 20% or greater.

8. NorthWestern shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 20% opacity limitation.

B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements be contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirement for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (i.e., no monitoring) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

This permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

Monitoring at the Telstad Field station consists of certifying that only pipeline quality natural gas is used.

C. Test Methods and Procedures

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status. Portable analyzer testing is required every 6 months for the two 600 hp Ajax DPC-600 compressor engines, the 160 hp Ajax DPC-160 compressor engine, and the two 1100 hp Solar Saturn compressor turbines. This testing schedule and method has been approved by the Department and EPA.

D. Recordkeeping Requirements

The recordkeeping provisions shall be sufficient to meet the provisions of the monitoring requirements and shall include, as necessary, the installation, use, and maintenance of the monitoring equipment or methods. The following information shall also be provided: the date the analyses were performed; the methods used; the results of such analyses; and the operating conditions at the time of the analyses. Retention of the records of all required monitoring data and support information shall be for a period of at least five years from the date of measurement. Support information includes all calibration and maintenance records and copies of all reports required by the operating permit.

E. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, the permittee is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation. NorthWestern is required to submit both semiannual and annual reports and/or certifications for the Telstad Field Station.

SECTION IV. - NON-APPLICABLE REQUIREMENTS ANALYSIS

Section IV of the operating permit "Non-applicable Requirements" contains the requirements that the Department determined were non-applicable. The following table summarizes the requirements that the Department has determined to be applicable including the requirements MPC identified as non-applicable. The table contains the reasons that the Department did not include these requirements as non-applicable in the permit.

Applicable Requirement	Reason
Sub-Chapter 1 General Provisions	
ARM 17.8.101 Definitions ARM 17.8.102 Incorporation by Reference – Publication Dates and Availability of Referenced Documents ARM 17.8.103 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
Sub-Chapter 2 Ambient Air Quality	
ARM 17.8.201 Definitions ARM 17.8.202 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.205 Enforceability ARM 17.8.204 Ambient Air Monitoring ARM 17.8.206 Methods and Data ARM 17.8.210 Ambient Air Quality Standard for Sulfur Dioxide ARM 17.8.211 Ambient Air Quality Standard for Nitrogen Dioxide ARM 17.8.212 Ambient Air Quality Standard for Carbon Monoxide ARM 17.8.213 Ambient Air Quality Standard for Ozone ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter ARM 17.8.221 Ambient Air Quality Standard for Visibility ARM 17.8.222 Ambient Air Quality Standard for Lead ARM 17.8.223 Ambient Air Quality Standard for PM_{10} ARM 17.8.230 Fluoride in Forage	These rules are always applicable to a major source and may contain specific requirements for compliance. However, these rules have been excluded as an applicable requirement (ARM 17.8.1202).
Sub-Chapter 3 Emission Standards	
ARM 17.8.322 Sulfur oxide emissions - Sulfur in Fuel	This facility burns both liquid and solid fuel at the facility. Therefore, this rule is applicable to the facility.
ARM 17.8.326 Prohibited Materials for Wood or Coal Residential Stoves	This regulation may not be applicable to the source at this time, however, it may become applicable during the life of the permit.

Applicable Requirement	Reason
ARM 17.8.330 Definitions	This rule consists of either a statement of purpose, applicability statement, regulatory definition or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
Sub-Chapter 4 Stack Heights	
ARM 17.8.401 Definitions	This rule consists of either a statement of purpose, applicability statement, regulatory definition or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.402 Requirements ARM 17.8.403 Exemptions	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span.
Sub-Chapter 5 Air Quality Permit Application, Operation and Open Burning Fees	
ARM 17.8.504 Air Quality Permit Application Fees ARM 17.8.514 Air Quality Open Burning Fees ARM 17.8.515 Air Quality Open Burning Fees for Conditional, Emergency, Christmas Tree Waste, and Commercial Film Production Open Burning Permits	These are procedural rules that have specific requirements that may become relevant to a major source during the permit span
Sub-Chapter 6 Open Burning	
ARM 17.8.606 Minor Open Burning Requirements ARM 17.8.611 Emergency Open Burning Permits ARM 17.8.612 Conditional Air Quality Open Burning Permits	The following regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 7 Permit, Construction and Operation of Air Contaminant Sources	
ARM 17.8.701 *et seq.* Permit, construction and operation of air contaminant sources	The following regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 8 Prevention of Significant Deterioration	
ARM 17.8.825 Sources Impacting Federal Class I Areas – Additional Requirements ARM 17.8.826 Public Participation	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
ARM 17.8.804 Ambient Air Increments	The following regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit
Sub-Chapter 9 Permit Requirements for Major Stationary Sources or Major Modifications Located Within Nonattainment Areas	
ARM 17.8.901 Definitions ARM 17.8.902 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by

Applicable Requirement	Reason
	reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.904 When Air Quality Preconstruction Permit Required ARM 17.8.905 Additional Conditions of Air Quality Preconstruction Permit ARM 17.8.906 Baseline for Determining Credit for Emissions and Air Quality Offsets	These regulations are state regulations, which may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 10 Preconstruction Permit Requirements for Major Stationary Sources or Major Modifications Located Within Attainment or Unclassified Areas	
ARM 17.8.1001 Definitions ARM 17.8.1002 Incorporation by Reference	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1004 When Air Quality Preconstruction Permit Required ARM 17.8.1005 Additional Conditions of Air Quality Preconstruction Permit ARM 17.8.1006 Review of Specified Sources for Air Quality Impact ARM 17.8.1007 Baseline for Determining Credit for Emissions and Air Quality Offsets	These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
Sub-Chapter 11 Visibility Impact Assessment	
ARM 17.8.1101 Definitions ARM 17.8.1103 Applicability --Visibility Requirements	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.
ARM 17.8.1108 Notification of Permit Application ARM 17.8.1109 Adverse Impact and Federal Land Management	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source.
Federal Requirements	
40 CFR 50 National Primary and Secondary Ambient Air Quality Standards 40 CFR 51 Requirements for Preparation, Adoption, and Submittal of Implementation Plans 40 CFR 58 Ambient Air Quality Surveillance	These rules do not have specific requirements for major sources because they are requirements for EPA or state and local authorities. Furthermore, these rules can be used as authority to impose specific requirements on a major source

Applicable Requirement	Reason
40 CFR 52 Approval and Promulgation of Implementation Plans 40 CFR 62 Approval and Promulgation of State Plans for Designated Facilities and Pollutants 40 CFR 70 and 71 State Operating Permit Programs and EPA Regulations on Federal Operating Permit Programs	These rules contain requirements for regulatory authorities and not major sources, these rules can be used to impose specific requirements on a major source.
40 CFR 60.11 Compliance with Standards and Maintenance Requirements 40 CFR 60.14 Modification 40 CFR 60.15 Reconstruction	These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.
40 CFR 61, Subpart M National Emissions Standards for Hazardous Air Pollutants - Asbestos	This is a federal regulation that has specific procedural requirements that may become relevant to the major source during the permit term.
40 CFR 63, Subpart A - General Provisions	These federal regulations consist of an applicability statement. These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.

SECTION V. - FUTURE PERMIT CONSIDERATIONS

A. MACT/NESHAP Standards

National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities (40 CFR Part 63, Subpart HH) and National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities (40 CFR Part 63, Subpart HHH) was promulgated June 17, 1999. As of the issuance date of Permit #OP782-03, neither Subpart HH nor Subpart HHH is applicable to the facility because the facility would not meet the definition of a major source as defined in each subpart. However, the facility is potentially subject to 40 CFR Part 63, Subpart ZZZZ, Reciprocating Internal Combustion Engines, and 40 CFR Part 63, Subpart YYYY, once the rules are promulgated.

B. NSPS Standards

As of the issuance date of Permit #OP2782-03, the Department is unaware of any future NSPS Standards that may be promulgated that will affect this facility.

C. Risk Management Plan

As of the issuance date of Permit #OP2782-03, this facility does not have any substance listed in 40 CFR 68.115 or 40 CFR 68.130, which exceeds the minimum threshold quantities. Consequently, this facility is not required to submit a Risk Management Plan.